

# Cheng-Bin Shi

## List of Publications by Citations

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87  
papers

1,378  
citations

21  
h-index

33  
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92  
ext. papers

1,701  
ext. citations

1.9  
avg, IF

5.13  
L-index

#	Paper	IF	Citations
87	Crystallization Characteristics of CaO-Al <sub>2</sub> O <sub>3</sub> -Based Mold Flux and Their Effects on In-Mold Performance during High-Aluminum TRIP Steels Continuous Casting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2014</b> , 45, 1081-1097	2.5	73
86	Assessment of Oxygen Control and Its Effect on Inclusion Characteristics during Electroslag Remelting of Die Steel. <i>Steel Research International</i> , <b>2012</b> , 83, 472-486	1.6	72
85	A Thermodynamic Model of Phosphorus Distribution Ratio between CaO-SiO <sub>2</sub> -MgO-FeO-Fe <sub>2</sub> O <sub>3</sub> -MnO-Al <sub>2</sub> O <sub>3</sub> -P <sub>2</sub> O <sub>5</sub> Slags and Molten Steel during a Top/Bottom Combined Blown Converter Steelmaking Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2011</b> , 42, 1472-1482	2.5	70
84	A Sulphide Capacity Prediction Model of CaO-SiO <sub>2</sub> -MgO-Al <sub>2</sub> O <sub>3</sub> Ironmaking Slags Based on the Ion and Molecule Coexistence Theory. <i>ISIJ International</i> , <b>2010</b> , 50, 1362-1372	1.7	64
83	A Thermodynamic Model of Sulfur Distribution Ratio between CaO-SiO <sub>2</sub> -MgO-FeO-MnO-Al <sub>2</sub> O <sub>3</sub> Slags and Molten Steel during LF Refining Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2011</b> , 42, 1472-1482	2.5	61
82	A Thermodynamic Model for Calculating Sulphur Distribution Ratio between CaO-SiO <sub>2</sub> -MgO-Al <sub>2</sub> O <sub>3</sub> Ironmaking Slags and Carbon Saturated Hot Metal Based on the Ion and Molecule Coexistence Theory. <i>ISIJ International</i> , <b>2009</b> , 49, 1828-1837	1.7	61
81	A Thermodynamic Model of Phosphate Capacity for CaO-SiO <sub>2</sub> -MgO-FeO-Fe <sub>2</sub> O <sub>3</sub> -MnO-Al <sub>2</sub> O <sub>3</sub> -P <sub>2</sub> O <sub>5</sub> Slags Equilibrated with Molten Steel during a Top/Bottom Combined Blown Converter Steelmaking Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2011</b> , 42, 1472-1482	2.5	52
80	Investigation of Oxide Inclusions and Primary Carbonitrides in Inconel 718 Superalloy Refined through Electroslag Remelting Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2012</b> , 43, 1596-1607	2.5	51
79	Crystallization Behaviors of CaO-SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -Na <sub>2</sub> O-CaF <sub>2</sub> -(Li <sub>2</sub> O-B <sub>2</sub> O <sub>3</sub> ) Mold Fluxes. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2014</b> , 45, 1874-1886	2.5	49
78	A Thermodynamic Model for Prediction of Iron Oxide Activity in Some FeO-Containing Slag Systems. <i>Steel Research International</i> , <b>2012</b> , 83, 244-258	1.6	48
77	Control of MgO-Al <sub>2</sub> O <sub>3</sub> Spinel Inclusions during Protective Gas Electroslag Remelting of Die Steel. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2013</b> , 44, 378-389	2.5	41
76	Effect of SiO <sub>2</sub> on the Crystallization Behaviors and In-Mold Performance of CaF <sub>2</sub> -CaO-Al <sub>2</sub> O <sub>3</sub> Slags for Drawing-Ingot-Type Electroslag Remelting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2015</b> , 46, 2110-2120	2.5	34
75	Simultaneous Modification of Alumina and MgO-Al <sub>2</sub> O <sub>3</sub> Inclusions by Calcium Treatment During Electroslag Remelting of Stainless Tool Steel. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2017</b> , 48, 146-161	2.5	30
74	A Sulfide Capacity Prediction Model of CaO-SiO <sub>2</sub> -MgO-FeO-MnO-Al <sub>2</sub> O <sub>3</sub> Slags during the LF Refining Process Based on the Ion and Molecule Coexistence Theory. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2012</b> , 43, 241-266	2.5	28
73	Evolution of Al <sub>2</sub> O <sub>3</sub> inclusions by magnesium treatment in H13 hot work die steel. <i>Ironmaking and Steelmaking</i> , <b>2017</b> , 44, 128-133	1.3	27
72	Crystallization Kinetics and Mechanism of CaO-Al <sub>2</sub> O <sub>3</sub> -Based Mold Flux for Casting High-Aluminum TRIP Steels. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2015</b> , 46, 345-356	2.5	24
71	Non-isothermal melt crystallization of cuspidine in CaO-SiO <sub>2</sub> -CaF <sub>2</sub> based glasses. <i>Journal of Non-Crystalline Solids</i> , <b>2015</b> , 412, 58-65	3.9	23

70	Characteristics of inclusions in high-Al steel during electroslag remelting process. <i>International Journal of Minerals, Metallurgy and Materials</i> , <b>2012</b> , 19, 295-302	3.1	23
69	Effect of TiO <sub>2</sub> on the viscosity and structure of low-fluoride slag used for electroslag remelting of Ti-containing steels. <i>International Journal of Minerals, Metallurgy and Materials</i> , <b>2017</b> , 24, 18-24	3.1	22
68	Evolution of Oxide Inclusions in Si-Mn-Killed Steel During Protective Atmosphere Electroslag Remelting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2019</b> , 50, 1139-1147	2.5	21
67	Kinetics of Isothermal Melt Crystallization in CaO-SiO <sub>2</sub> -CaF <sub>2</sub> -Based Mold Fluxes. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2015</b> , 46, 2374-2383	2.5	21
66	Fluoride evaporation and crystallization behavior of CaF <sub>2</sub> -CaO-Al <sub>2</sub> O <sub>3</sub> -TiO <sub>2</sub> slag for electroslag remelting of Ti-containing steels. <i>International Journal of Minerals, Metallurgy and Materials</i> , <b>2016</b> , 23, 627-636	3.1	21
65	Effect of Magnesium Addition on Behavior of Collision and Agglomeration between Solid Inclusion Particles on H13 Steel Melts. <i>Steel Research International</i> , <b>2017</b> , 88, 1600185	1.6	21
64	Effect of directional solidification of electroslag remelting on the microstructure and primary carbides in an austenitic hot-work die steel. <i>Journal of Materials Processing Technology</i> , <b>2017</b> , 249, 32-38	5.3	20
63	Effect of trace magnesium on carbide improvement in H13 steel. <i>Canadian Metallurgical Quarterly</i> , <b>2016</b> , 55, 321-327	0.9	20
62	Deoxidation of Electroslag Remelting (ESR) – A Review. <i>ISIJ International</i> , <b>2020</b> , 60, 1083-1096	1.7	19
61	Effects of Reoxidation of Liquid Steel and Slag Composition on the Chemistry Evolution of Inclusions During Electroslag Remelting. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2018</b> , 49, 1675-1689	2.5	18
60	Evolution of Oxide-Sulfide Complex Inclusions and Its Correlation with Steel Cleanliness During Electroslag Rapid Remelting (ESRR) of Tool Steel. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2018</b> , 49, 3390-3402	2.5	17
59	Formation and Evolution of Non-Metallic Inclusions in Calcium Treatment H13 Steel during Electroslag Remelting Process. <i>ISIJ International</i> , <b>2019</b> , 59, 828-838	1.7	15
58	Effect of electroslag remelting on carbides in 8Cr13MoV martensitic stainless steel. <i>International Journal of Minerals, Metallurgy and Materials</i> , <b>2015</b> , 22, 1149-1156	3.1	15
57	Effect of Quenching Process on the Microstructure and Hardness of High-Carbon Martensitic Stainless Steel. <i>Journal of Materials Engineering and Performance</i> , <b>2015</b> , 24, 4313-4321	1.6	14
56	Effect of Oxide Inclusions Modification During Electroslag Remelting on Primary Carbides and Toughness of a High-Carbon 17 mass% Cr Tool Steel. <i>Journal of Materials Engineering and Performance</i> , <b>2016</b> , 25, 4785-4795	1.6	14
55	Effect of Directional Solidification in Electroslag Remelting on the Microstructure and Cleanliness of an Austenitic Hot-work Die Steel. <i>ISIJ International</i> , <b>2018</b> , 58, 1275-1284	1.7	14
54	Effect of magnesium addition on inclusions in H13 die steel. <i>International Journal of Minerals, Metallurgy and Materials</i> , <b>2014</b> , 21, 1062-1067	3.1	14
53	Control of Crystal Morphology for Mold Flux During High-Aluminum AHSS Continuous Casting Process. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2016</b> , 47, 2211-2221	2.5	14

52	Development of Low-Fluoride Slag for Electroslag Remelting: Role of Li <sub>2</sub> O on the Viscosity and Structure of the Slag. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2016</b> , 47, 3343-3349	2.5	13
51	Precipitation Mechanism and Reduction of Amount of Primary Carbides During Electroslag Remelting of 8Cr13MoV Stainless Steel. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2019</b> , 50, 1365-1377	2.5	12
50	Evolution of CaO-MgO-Al <sub>2</sub> O <sub>3</sub> -Ta <sub>2</sub> O <sub>5</sub> (SiO <sub>2</sub> ) inclusions in H13 die steel during electroslag remelting process. <i>Ironmaking and Steelmaking</i> , <b>2018</b> , 45, 6-16	1.3	12
49	Review on desulfurization in electroslag remelting. <i>International Journal of Minerals, Metallurgy and Materials</i> , <b>2021</b> , 28, 18-29	3.1	12
48	Evolution of Carbides in H13 Steel in Heat Treatment Process. <i>Materials Transactions</i> , <b>2017</b> , 58, 152-156	1.3	11
47	Effect of Titanium on the Microstructure and Mechanical Properties of High-Carbon Martensitic Stainless Steel 8Cr13MoV. <i>Metals</i> , <b>2016</b> , 6, 193	2.3	11
46	Effect of Spheroidizing Annealing on Microstructure and Mechanical Properties of High-Carbon Martensitic Stainless Steel 8Cr13MoV. <i>Journal of Materials Engineering and Performance</i> , <b>2017</b> , 26, 478-487	1.6	10
45	Crystallization Characteristics and In-Mold Performance of Electroslag Remelting-Type TiO <sub>2</sub> -Bearing Slag. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2019</b> , 50, 1148-1160	2.5	10
44	Precipitation behavior of carbides in high-carbon martensitic stainless steel. <i>International Journal of Materials Research</i> , <b>2017</b> , 108, 20-28	0.5	10
43	Evolution of TiN and Oxide Inclusions in Ti-containing Fe-25Ni-15Cr Alloy during Electroslag Remelting. <i>ISIJ International</i> , <b>2020</b> , 60, 1577-1585	1.7	9
42	Effect of TiO <sub>2</sub> on the crystallisation behaviour of CaF <sub>2</sub> -Ta <sub>2</sub> O <sub>5</sub> -Al <sub>2</sub> O <sub>3</sub> -MgO slag for electroslag remelting of Ti-containing tool steel. <i>Ironmaking and Steelmaking</i> , <b>2018</b> , 45, 135-144	1.3	9
41	Dependence of Temperature and Slag Composition on Dephosphorization at the First Deslagging in BOF Steelmaking Process. <i>High Temperature Materials and Processes</i> , <b>2016</b> , 35, 433-440	0.9	9
40	Growth and agglomeration behaviors of eutectic M <sub>7</sub> C <sub>3</sub> carbide in electroslag remelted martensitic stainless steel. <i>Journal of Materials Research and Technology</i> , <b>2021</b> , 11, 1490-1505	5.5	9
39	Effect of Electroslag Remelting Parameters on Primary Carbides in Stainless Steel 8Cr13MoV. <i>Materials Transactions</i> , <b>2016</b> , 57, 1547-1551	1.3	8
38	Effect of SiO <sub>2</sub> substitution with Al <sub>2</sub> O <sub>3</sub> during high-Al TRIP steel casting on crystallization and structure of low-basicity CaO-BiO <sub>2</sub> -based mold flux. <i>Journal of Iron and Steel Research International</i> , <b>2020</b> , 27, 33-41	1.2	8
37	Effect of Micro-alloying Element Boron on the Strengthening of High-Strength Steel Q690D. <i>Metallography, Microstructure, and Analysis</i> , <b>2015</b> , 4, 102-108	1.1	7
36	Development of Low-fluoride Slag for Electroslag Remelting: Role of Li <sub>2</sub> O on the Crystallization and Evaporation of the Slag. <i>ISIJ International</i> , <b>2020</b> , 60, 840-847	1.7	7
35	Effect of Heat Treatment on the Microstructure and Mechanical Properties of Nitrogen-Alloyed High-Mn Austenitic Hot Work Die Steel. <i>Metals</i> , <b>2017</b> , 7, 94	2.3	7

34	Characterization on Microstructure and Carbides in an Austenitic Hot-work Die Steel during ESR Solidification Process. <i>ISIJ International</i> , <b>2018</b> , 58, 2079-2087	1.7	6
33	Effect of Primary Carbides on the Sharpness of Kitchen Knives Made of 8Cr13MoV Steel. <i>Journal of Materials Engineering and Performance</i> , <b>2019</b> , 28, 4511-4521	1.6	5
32	Evolution of Inclusions with Ce Addition and Ca Treatment in Al-killed Steel during RH Refining Process. <i>ISIJ International</i> , <b>2021</b> , 61, 1506-1513	1.7	5
31	Supergravity-Induced Separation of Oxide and Nitride Inclusions from Inconel 718 Superalloy Melt. <i>ISIJ International</i> , <b>2020</b> , 60, 205-211	1.7	5
30	Effect of Mg addition on carbides in H13 steel during electroslag remelting process. <i>Metallurgical Research and Technology</i> , <b>2018</b> , 115, 501	0.9	5
29	Precipitation and growth of MnS inclusion in an austenitic hot-work die steel during ESR solidification process. <i>Metallurgical Research and Technology</i> , <b>2019</b> , 116, 322	0.9	4
28	Evolution of Calcium Aluminate Inclusions by Cerium Treatment in Al-Killed Steel during Ruhrstahl Heraeus Refining Process. <i>Steel Research International</i> , <b>2020</b> , 91, 2000117	1.6	4
27	The Effect of Al-Mg Deoxidation on the Cleanliness of Steel during the Electroslag Remelting Process. <i>Steel Research International</i> , <b>2019</b> , 90, 1900185	1.6	4
26	Influence of Boron Addition on the Hot Ductility of Low-Carbon Aluminum-Killed Steel. <i>Materials Transactions</i> , <b>2015</b> , 56, 1133-1139	1.3	4
25	Evaluation of Matusita Equation and Its Modified Expression for Determining Activation Energy Associated with Melt Crystallization. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2014</b> , 45, 1987-1991	2.5	4
24	Effect of Boron on the Hot Ductility of Low-Carbon Nb-Ti-Microalloyed Steel. <i>Materials Transactions</i> , <b>2016</b> , 57, 647-653	1.3	4
23	Effect of Melting Rate of Electroslag Rapid Remelting on the Microstructure and Carbides in a Hot Work Tool Steel. <i>Metals and Materials International</i> , <b>2020</b> , 27, 3603	2.4	3
22	Dephosphorization of high silicon hot metal based on double slag converter steelmaking technology. <i>Ironmaking and Steelmaking</i> , <b>2021</b> , 48, 447-456	1.3	3
21	Effect of Ce on inclusion evolution and HAZ mechanical properties of Al-killed high-strength steel. <i>Ironmaking and Steelmaking</i> , <b>2021</b> , 48, 796-802	1.3	3
20	Non-metallic inclusions in electroslag remelting: a review. <i>Journal of Iron and Steel Research International</i> , <b>2021</b> , 28, 1483	1.2	2
19	Hot deformation characteristics and microstructure evolution of electroslag remelted 15Cr-22Ni-1Nb austenitic heat-resistant steel. <i>Materials Characterization</i> , <b>2021</b> , 182, 111564	3.9	2
18	Investigation on Desulfurization of Rejected Electrolytic Manganese Metal Scrap: Experiment and Mathematical Modeling. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2021</b> , 52, 1626-1639	2.5	2
17	Effect of Boron and Titanium Addition on the Hot Ductility of Low-Carbon Nb-Containing Steel. <i>High Temperature Materials and Processes</i> , <b>2015</b> , 34,	0.9	1

16	Crystallization Kinetics and Structure of CaF <sub>2</sub> -CaO-Al <sub>2</sub> O <sub>3</sub> -MgO-TiO <sub>2</sub> Slag for Electroslag Remelting. <i>ISIJ International</i> , <b>2020</b> , 60, 492-498	1.7	1
15	Numerical simulation of Electroslag Remelting of Cr5 cold roll steel under different process parameters. <i>Metallurgical Research and Technology</i> , <b>2017</b> , 114, 614	0.9	1
14	Influence of cerium treatment on inclusion modification and as-cast microstructure of high-strength low-alloy steel. <i>Journal of Iron and Steel Research International</i> , <b>2017</b> , 24, 111-116	1.2	1
13	Continuous Cooling Transformation of Undeformed and Deformed High Strength Crack-Arrest Steel Plates for Large Container Ships. <i>High Temperature Materials and Processes</i> , <b>2019</b> , 38, 183-191	0.9	1
12	Effect of SiO <sub>2</sub> and B <sub>2</sub> O <sub>3</sub> on crystallization and structure of CaF <sub>2</sub> -CaO-Al <sub>2</sub> O <sub>3</sub> -based slag for electroslag remelting of ultra-supercritical rotor steel. <i>Journal of Iron and Steel Research International</i> , <b>2018</b> , 25, 111-116	1.2	1
11	Evolution of carbides and performance of knives made of aged 8Cr13MoV steel. <i>Materials Science and Technology</i> , <b>2019</b> , 35, 1988-1996	1.5	0
10	Effect of Solution Treatment on Grain Growth and Precipitates in Electroslag Remelted 15Cr-22Ni Iron-Base Superalloy. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , <b>2022</b> , 53, 877	2.5	0
9	Effect of Heat Treatment on the Carbide in Steel. <i>Engineering Materials</i> , <b>2021</b> , 143-203	0.4	0
8	Carbides in Special Steel. <i>Engineering Materials</i> , <b>2021</b> , 1-57	0.4	0
7	Numerical analysis of role of melting rate on electroslag remelting continuous directional solidification of a die steel. <i>Journal of Iron and Steel Research International</i> , <b>2021</b> , 28, 1617-1624	1.2	0
6	Theory Analysis of Steel Cleanliness Control During Electroslag Remelting <b>2013</b> , 31-38		
5	Theory Analysis of Steel Cleanliness Control During Electroslag Remelting <b>2013</b> , 31-38		
4	Effect of Nitrogen on the Carbide in Steel. <i>Engineering Materials</i> , <b>2021</b> , 307-326	0.4	
3	Carbides Control in Electroslag Remelting Process. <i>Engineering Materials</i> , <b>2021</b> , 59-108	0.4	
2	Effect of Magnesium on the Carbide in H13 Steel. <i>Engineering Materials</i> , <b>2021</b> , 205-282	0.4	
1	Carbide Control in Rolling Process. <i>Engineering Materials</i> , <b>2021</b> , 109-142	0.4	